

4

Notice of Allowability	Application No.	Applicant(s)	
	10/693,171	KETCHUM ET AL.	
	Examiner	Art Unit	
	Lawrence B. Williams	2611	

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Terminal Disclaimer filed on 20 June 2006.
2. ☒ The allowed claim(s) is/are 1-15, 17-23, 40-41, renumbered as 1-15, 16-22, 23-24, respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|--|--|

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The instant application discloses a method and apparatus for performing spatial processing in wireless time division duplex (TDD) multiple-input multiple-output MIMO communication system. The closest prior art of record is applicant's copending Application No. 10/729,070 for which a Terminal Disclaimer has been filed. A search of prior art records has failed to disclose a method for performing spatial processing in wireless time division duplex (TDD) multiple-input multiple-output MIMO communication system comprising:

“processing a first transmission received via a first link to obtain at least one eigenvector usable for spatial processing for both data transmission received via the first link and data transmission sent via a second link and performing spatial processing for a second transmission with the at least one eigenvector prior to transmission over the second link” as disclosed in claim 1.

“performing spatial processing on pilot symbols with a normalized eigenvector for one eigenmode of a MIMO channel to generate a first steered pilot for transmission via the one eigenmode of the MMO channel, the normalized eigenvector including a plurality of elements having same magnitude; and performing spatial processing on data symbols with the normalized eigenvector prior to transmission on the one eigenmode of the MIMO channel” as disclosed in claim 40.

Nor does the prior art disclose an apparatus in a wireless time division duplex (TDD) multiple-input multiple-output MIMO communication system comprising:

”means for processing a first transmission including at least one steered pilot received on at least one eigenmode of a MIMO channel via a first link to obtain at least one eigenvector usable for spatial processing for both data transmission received via the first link and data transmission sent via a second link; and means for performing spatial processing for a second transmission with the at least one eigenvector prior to transmission over the second link” as disclosed in claim 14.

“a controller operative to process a first transmission received via a first link to obtain at least one eigenvector usable for spatial processing for both data transmission received via the first link and data transmission sent via a second link; and a transmit spatial processor operative to perform spatial processing for a second transmission with the at least one eigenvector prior to transmission over the second link” as disclosed in claim 19.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

DRAWINGS

2. The drawings are objected to because:

a.) In Fig. 6 (Sheet 6/6), the examiner suggests applicant correct the spelling in “Ac ss Point” and “Us r T rminal”.

TERMINAL DISCLAIMER

3. The terminal disclaimer filed on 20 June 2002 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date has been reviewed and is accepted. The terminal disclaimer has been recorded.

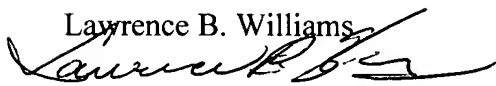
CONCLUSION

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ghayour Mohammad can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

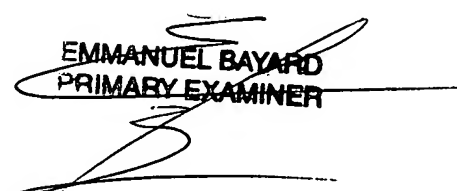
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams



lbw

August 9, 2006



EMMANUEL BAYARD
PRIMARY EXAMINER